

# Antioxidant effects of proanthocyanidin from grape seed on hepatic tissue injury in diabetic rats

[Esrafil Mansouri](#),<sup>1\*</sup> [Layasadat Khorsandi](#),<sup>1</sup> and [Hassan Ali Abedi](#)<sup>2</sup>

## Abstract

---

### Objective(s):

Diabetes plays an important role in the induction of the liver injury. Grape seed proanthocyanidin (GSP) have a wide range of medicinal properties against oxidative stress. In this study we evaluated antioxidant effects of GSP on liver in streptozotocin-induced diabetic rats.

### Materials and Methods:

Thirty male Sprague–Dawley rats were divided into three groups: control, untreated diabetic and diabetic rats treated with GSP. Diabetes was induced in rats by intraperitoneal injection of streptozotocin (50 mg/kg). GSP were administered via oral gavage (200 mg/kg) for 4 weeks.

### Results:

GSP produced significant hepatoprotective effects by decreasing activities of serum aminotransferases and alkaline phosphatase, and decreasing liver malondialdehyde and bilirubin ( $P<0.05$ ) levels. It increased liver superoxide dismutase, catalase and glutathione peroxidase activities and albumin level ( $P<0.05$ ). Administration of GSP significantly ameliorated structural changes induced in liver of diabetic rats.

### Conclusion:

GSP have protective effects against hepatic tissue injury due to antioxidant properties.

**Keywords:** Antioxidant enzyme, Diabetes, GSP, Hepatic tissue